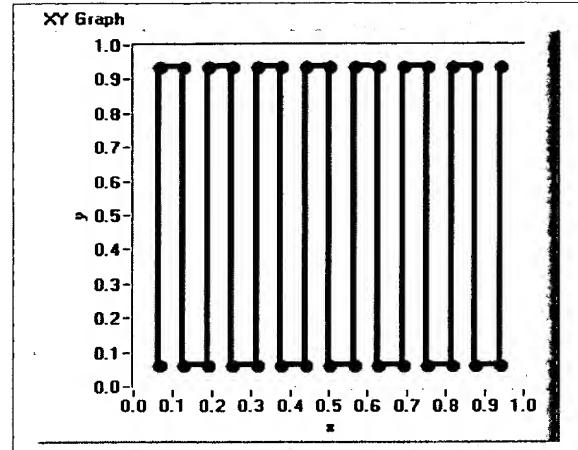


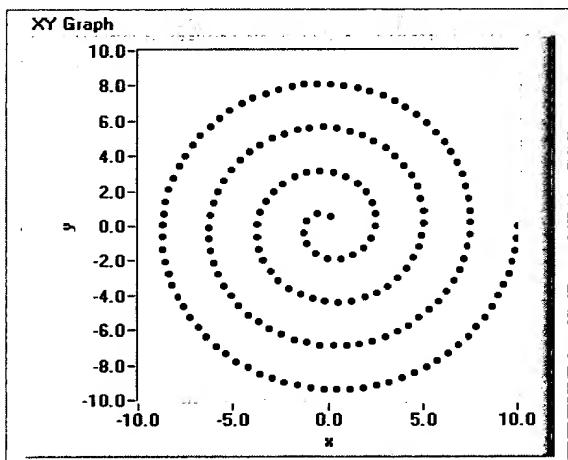
Approximated Peano Curve. The space-filling process has not been completed.

Figure 1A (Prior Art)



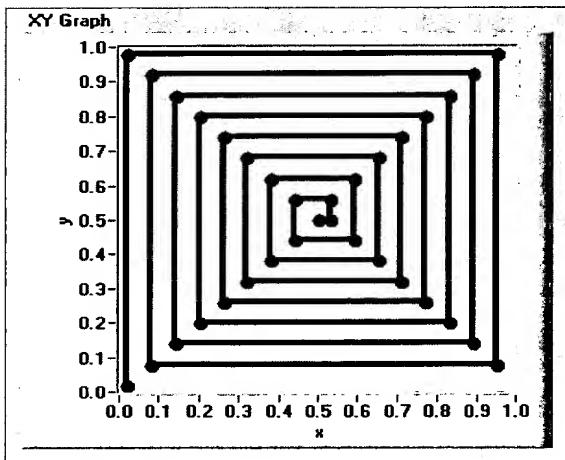
Boustrophedon Path

Figure 1B (Prior Art)



Archimedes Spiral defined by equally distributed points

Figure 1C (Prior Art)



Spiral-like line-based scanning

Figure 1D (Prior Art)

708090-00692860

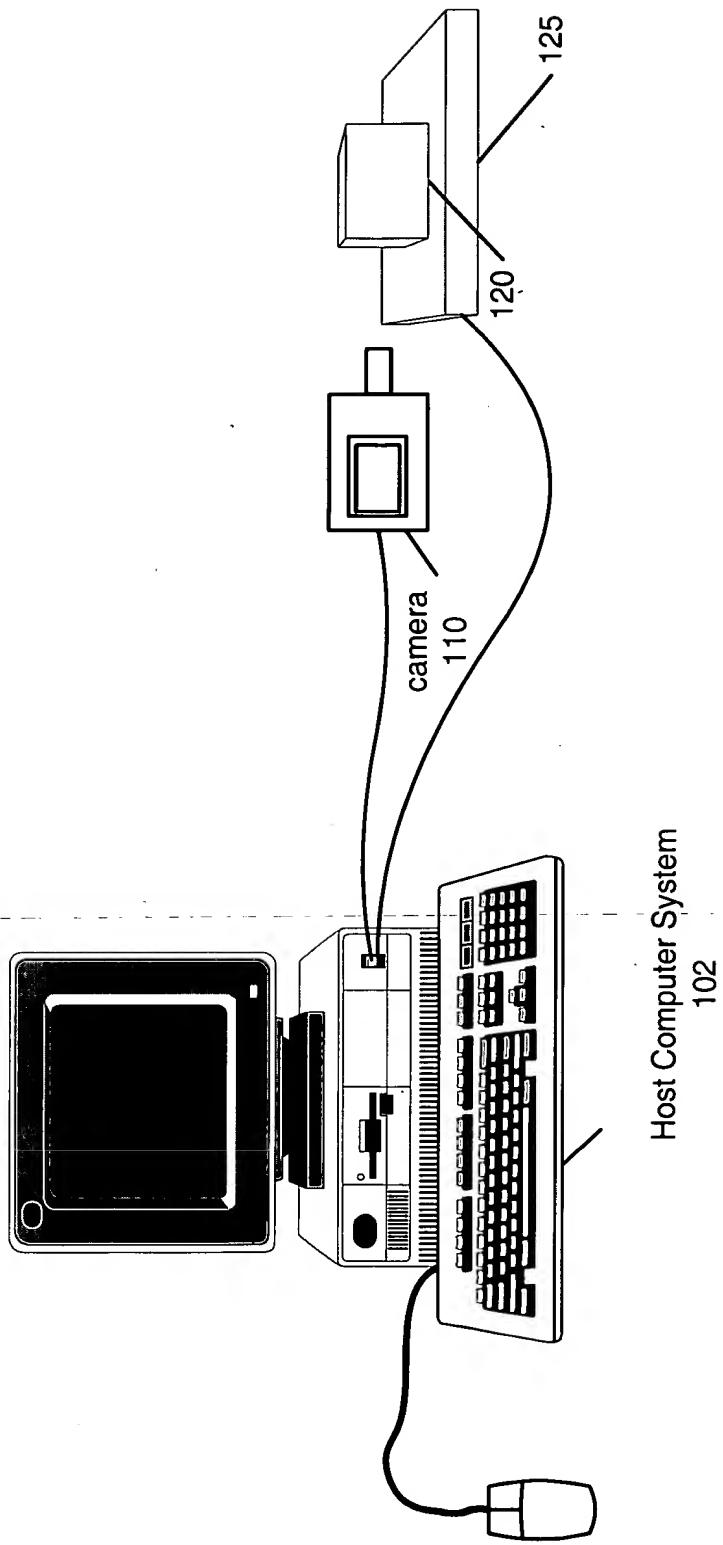


Figure 2A

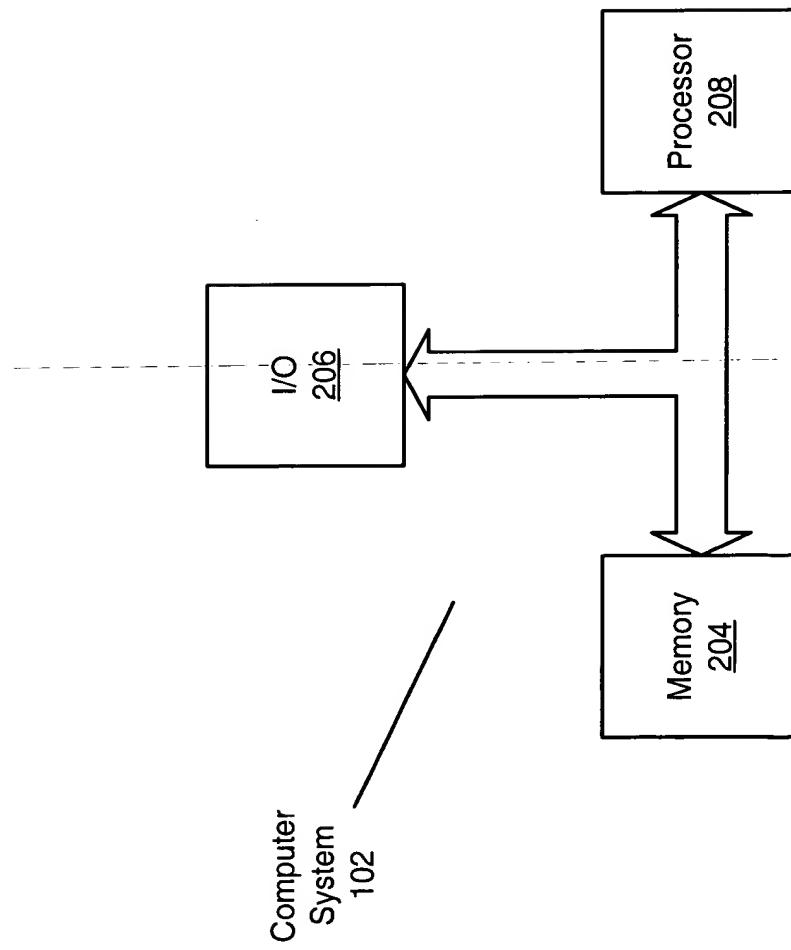


Figure 2B

102090 08627250

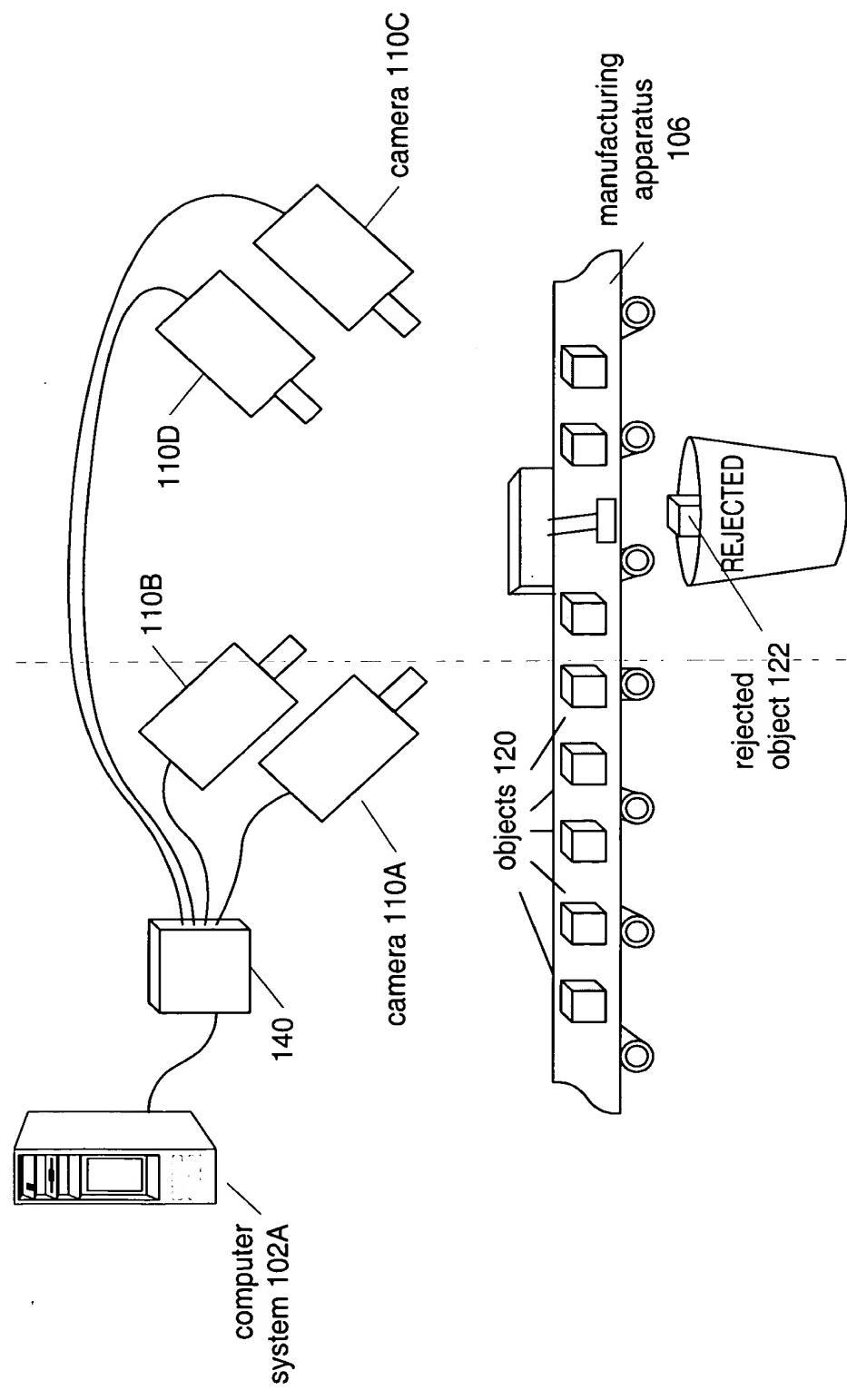


Figure 3A

FIGURE 3B

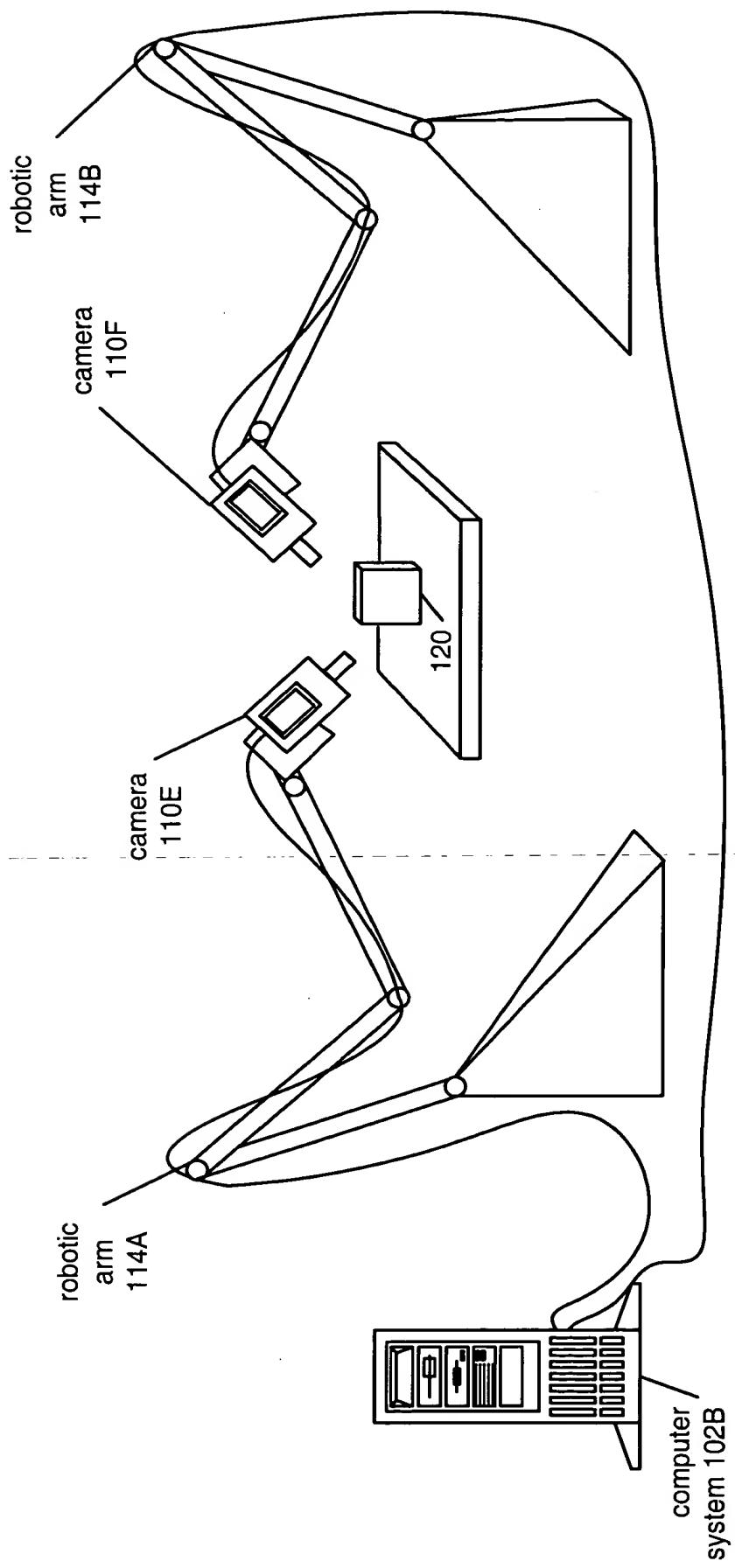


Figure 3B

09676980 - 060801

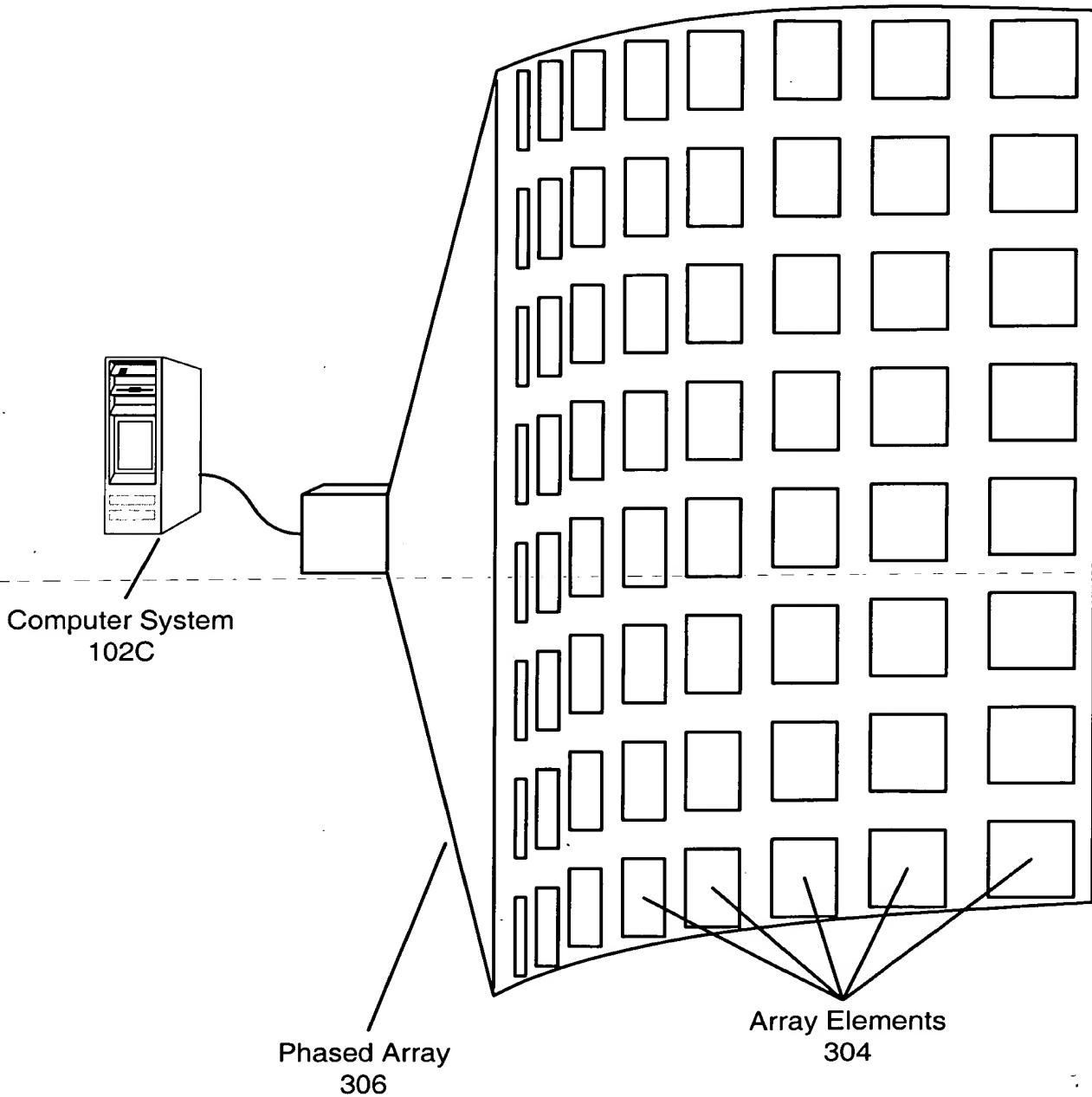


Figure 3C

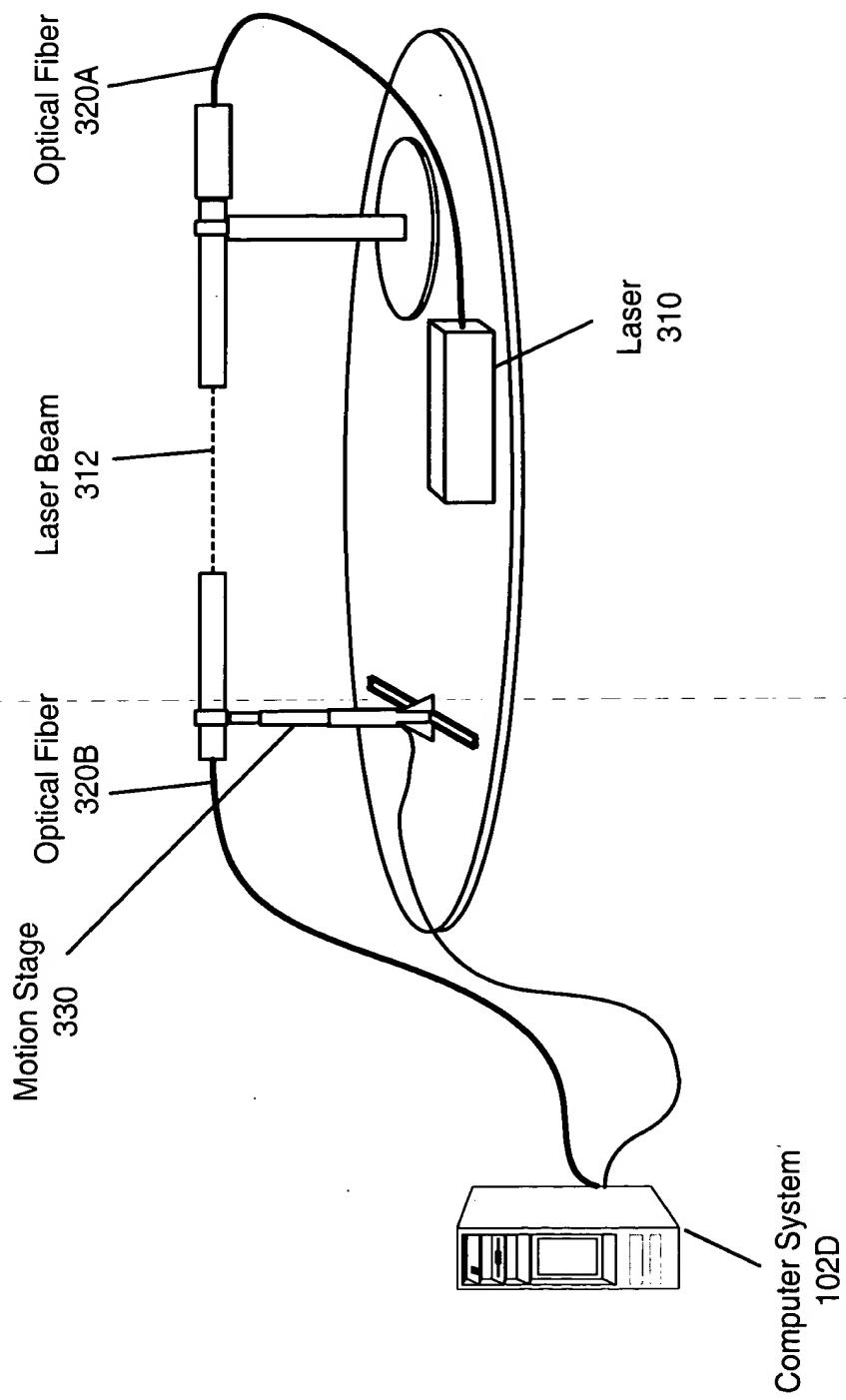
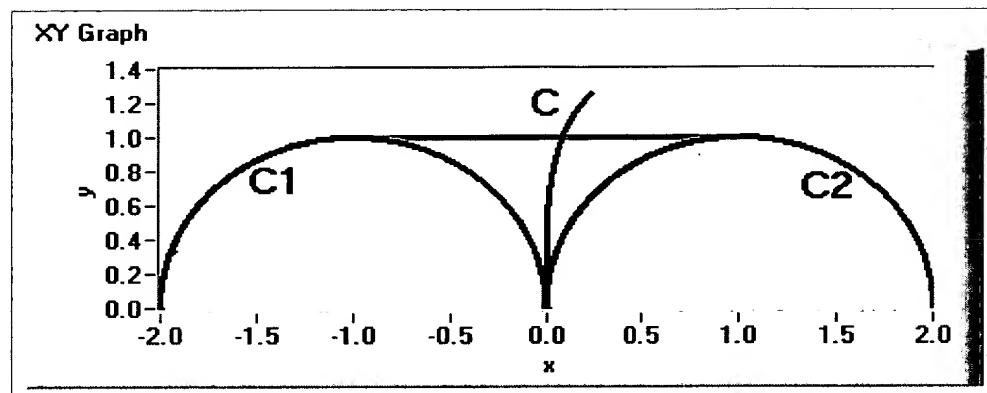


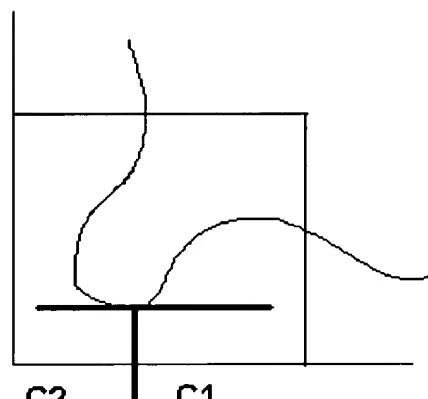
Figure 3D

1080000-000628613

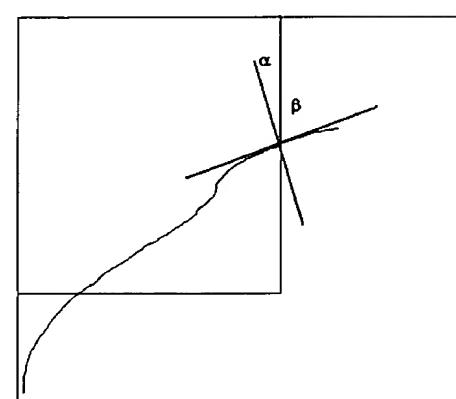


The situation of Lemma 1

Figure 4A



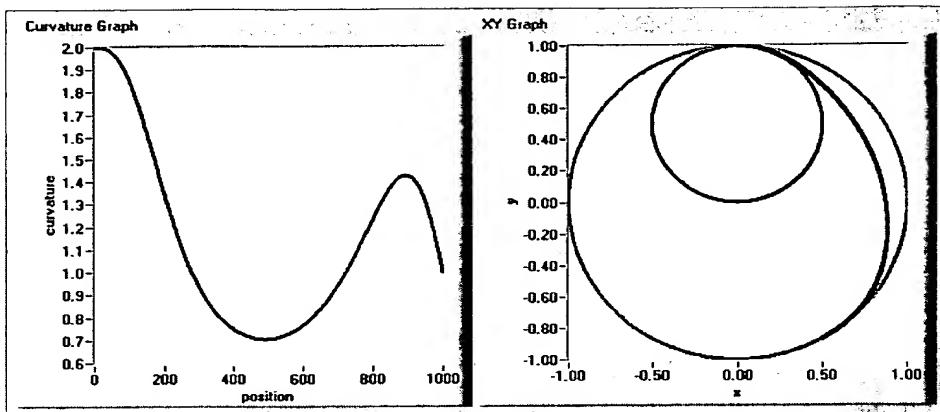
Case (A)



Case (B)

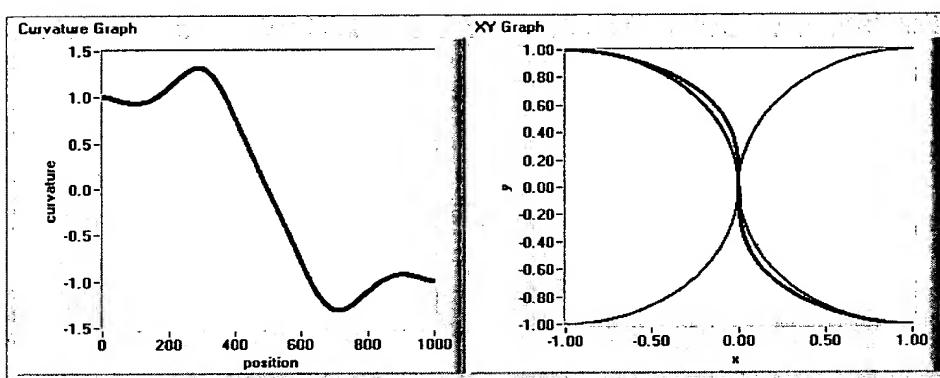
Figure 4B

Figure 4C



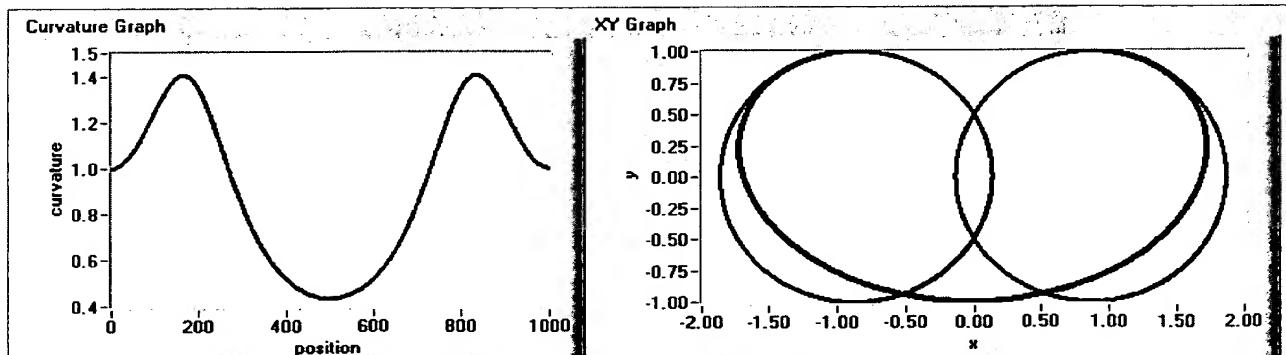
Smooth transition between two circles of different radii.

Figure 4D



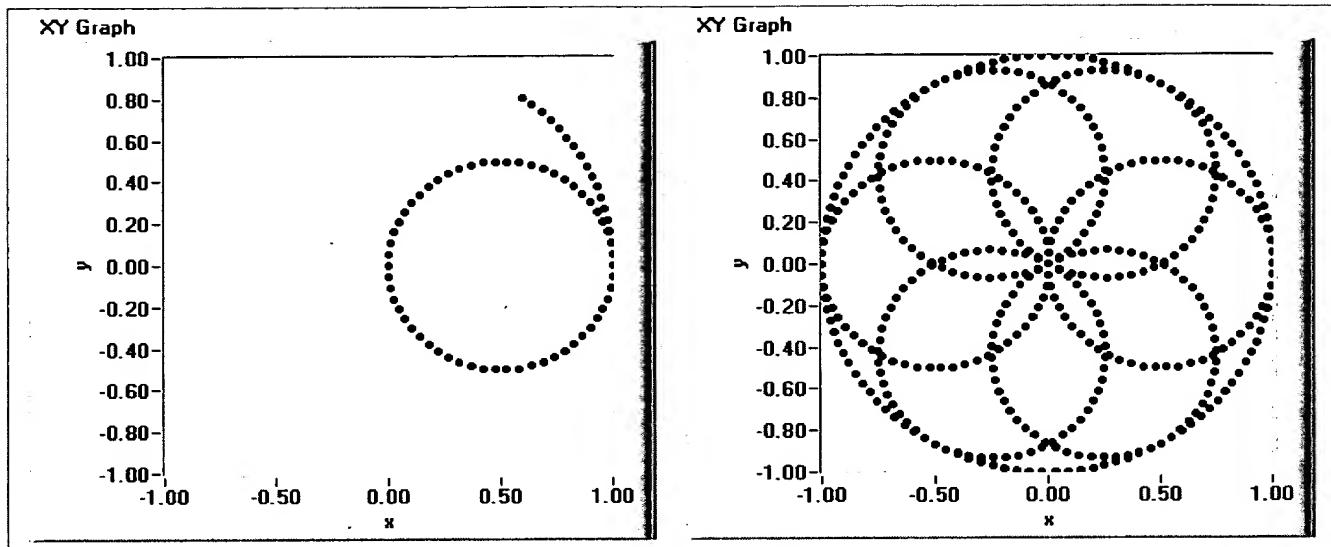
Smooth transition between two circles of same radius.

Figure 4E



Transition between two unit circles of radius 1. The distance between the circles is $\sqrt{3}$

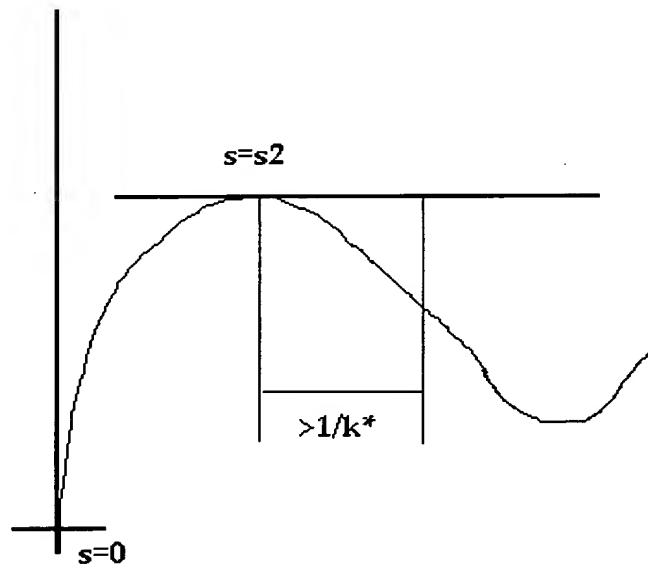
Figure 4F



Beginning (left) and completion (right) of a scanning scheme where the curvature is below a certain value

Figure 5A

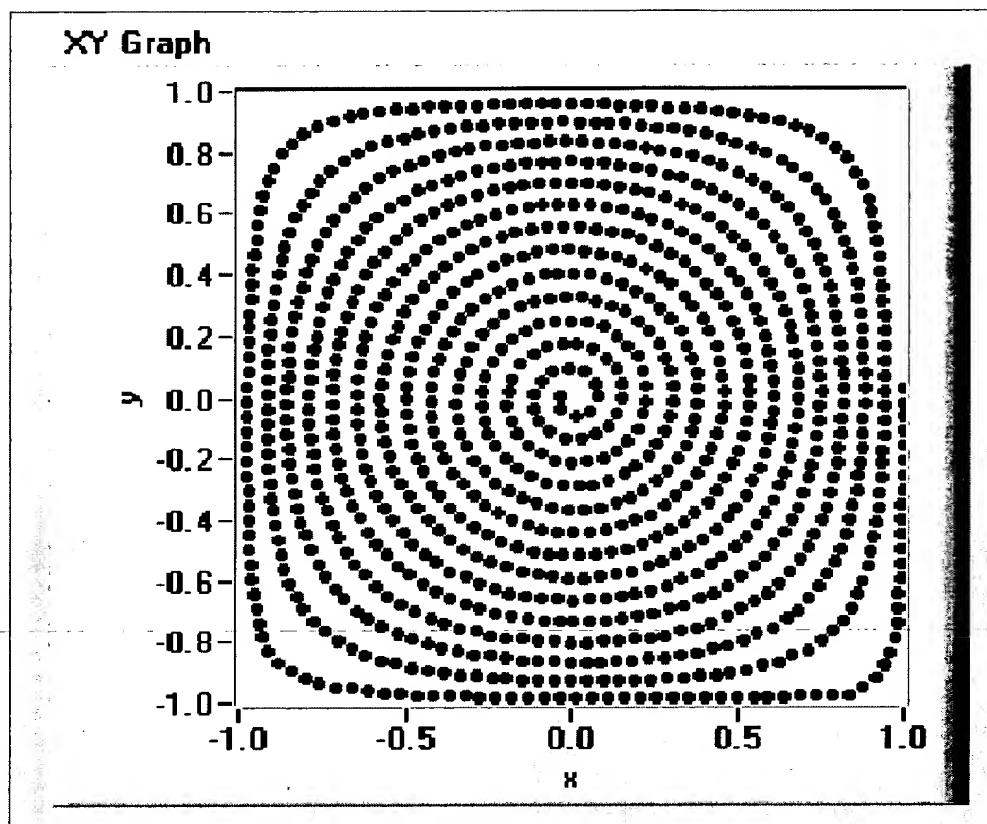
TO 00000 - 00690860



Construction of $s2$ and the subsequent part of the curve

Figure 5B

09876980.060801



Conformal Spiral.

Figure 6

TO 90000 000697860

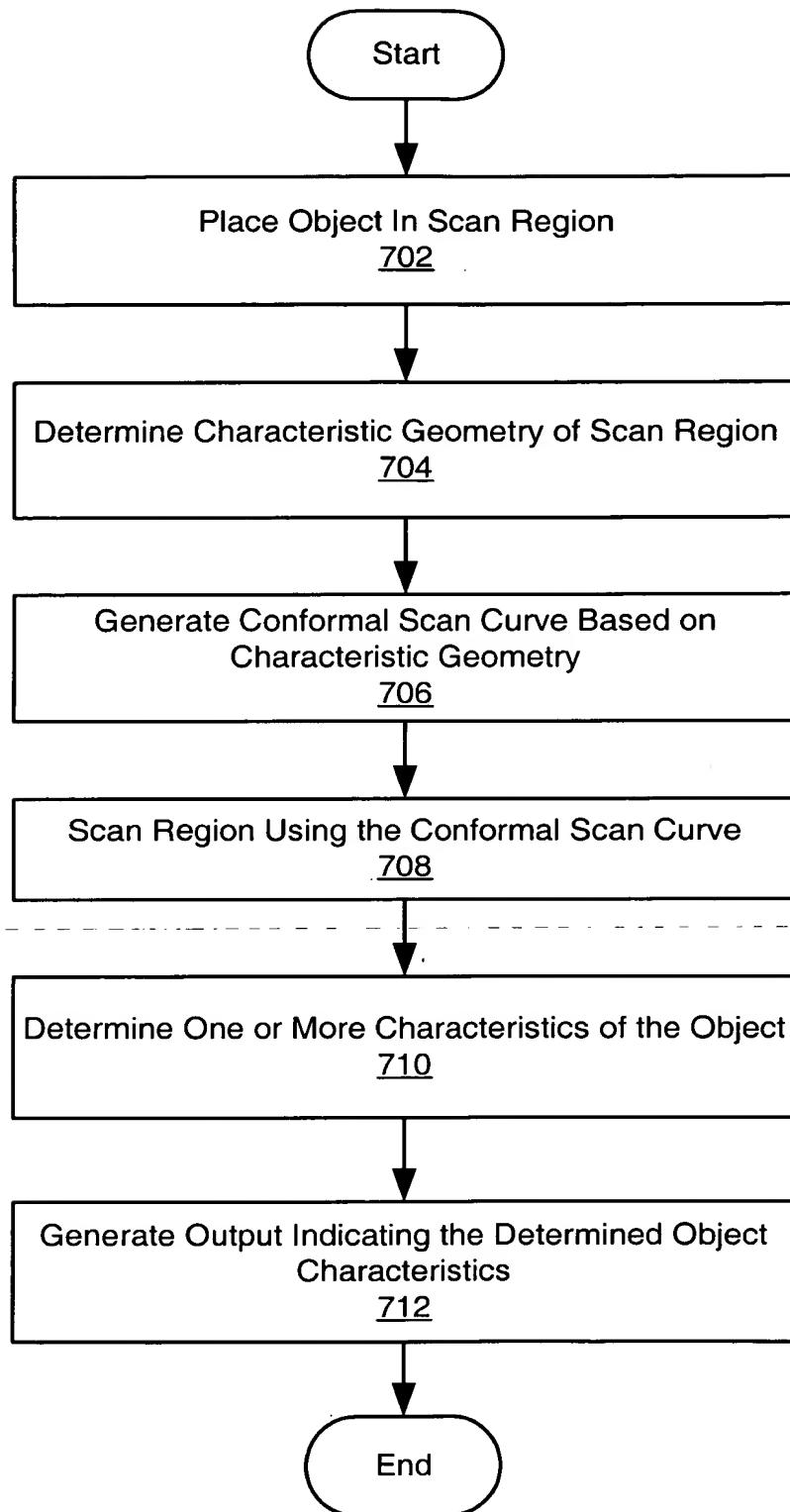
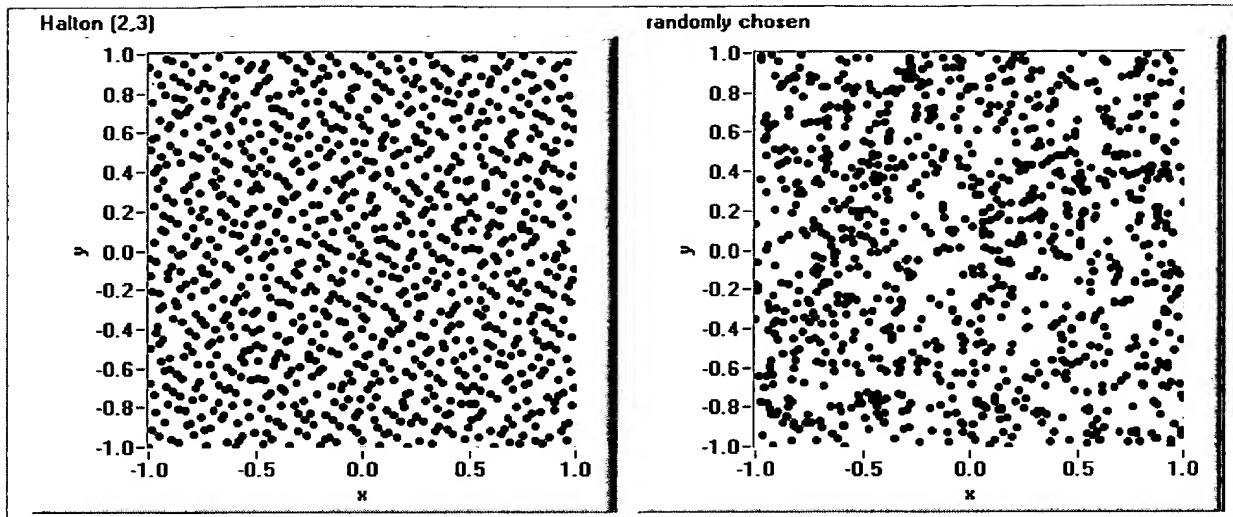
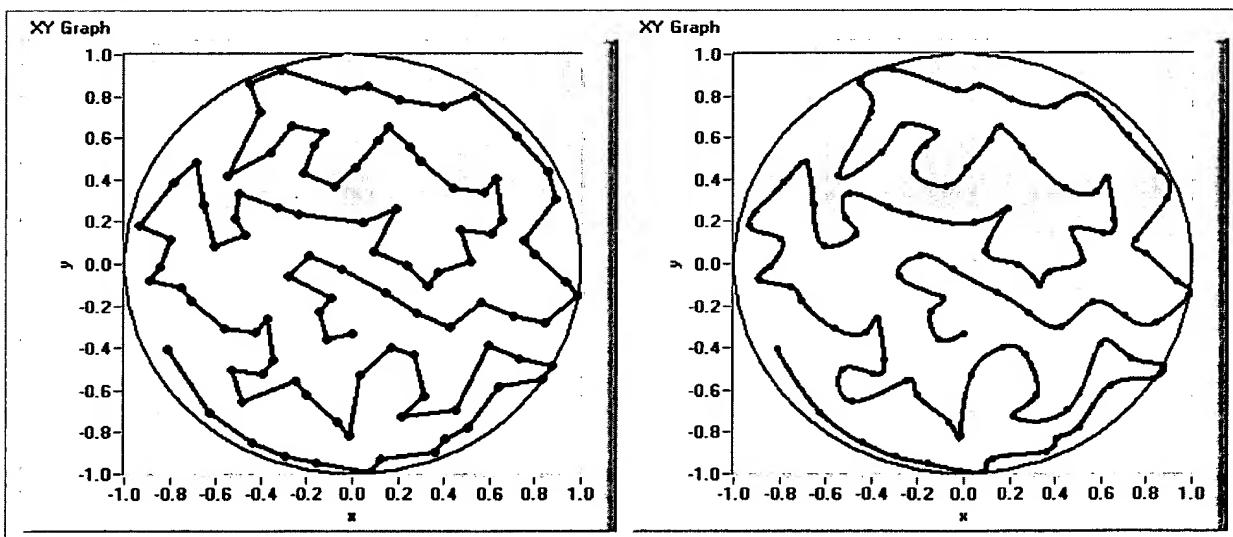


Figure 07



The first 1000 Halton points (left) and randomly chosen points (right)

Figure 8A



Original solution (left) and splined version (right).

Figure 8B

00000000000000000000000000000000

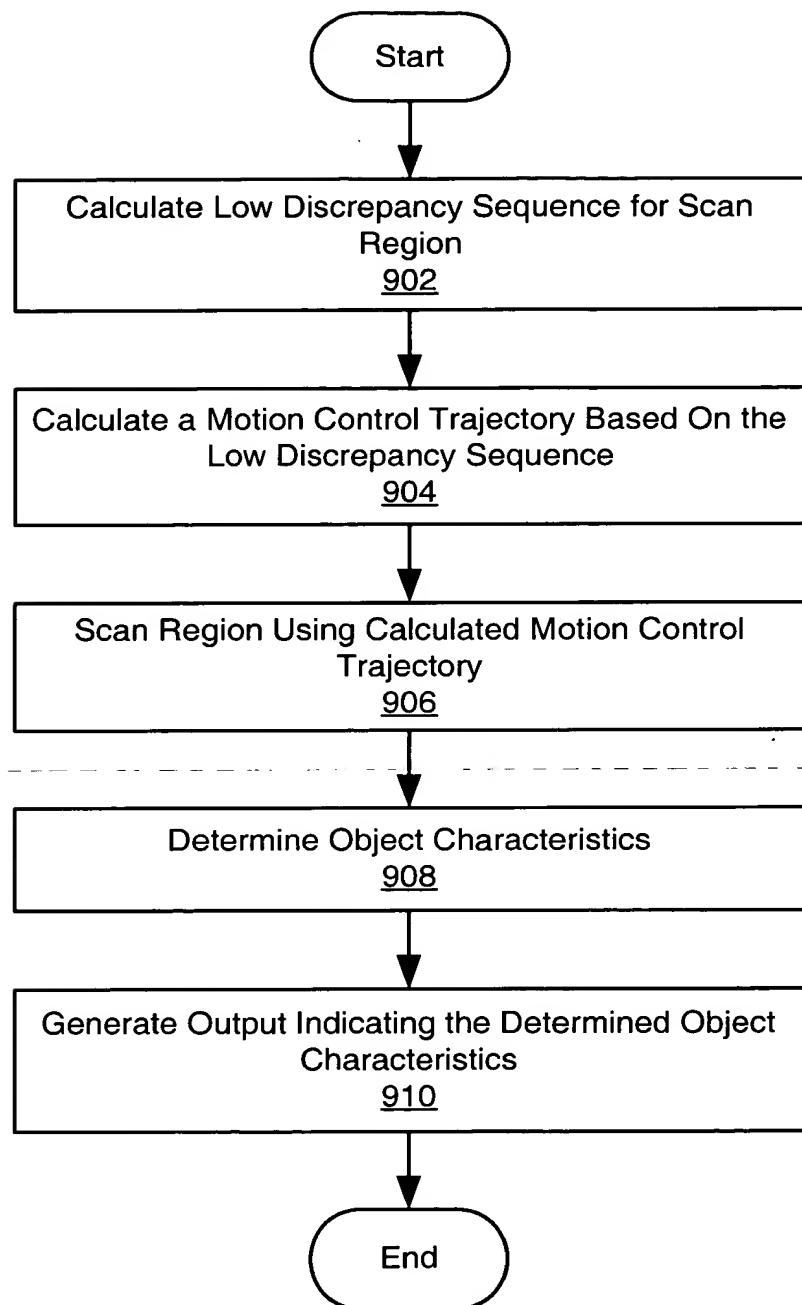


Figure 9

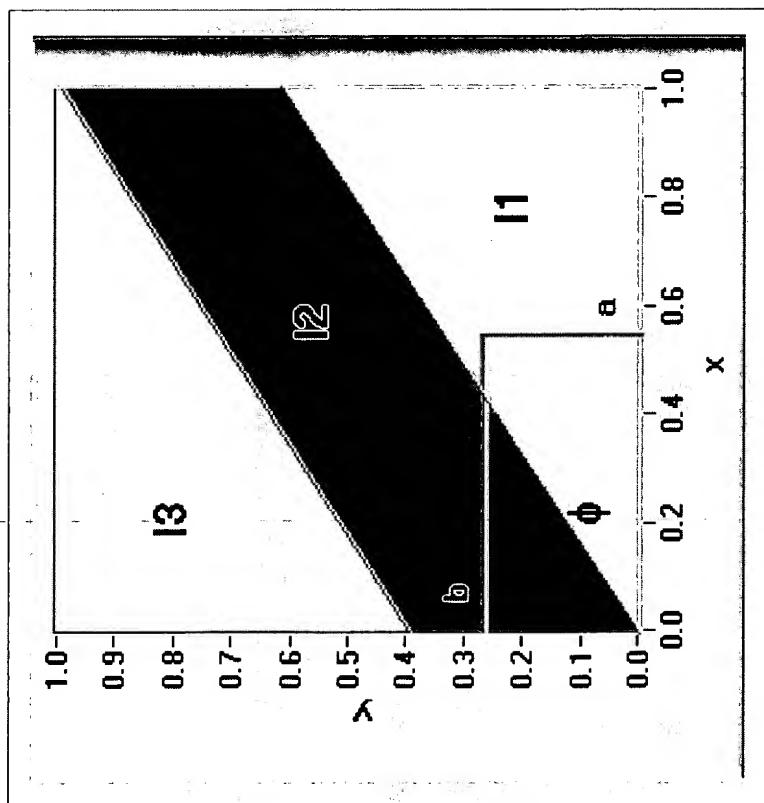
Definition of I_1 , I_2 , and I_3

Figure 10

103090" 08694860

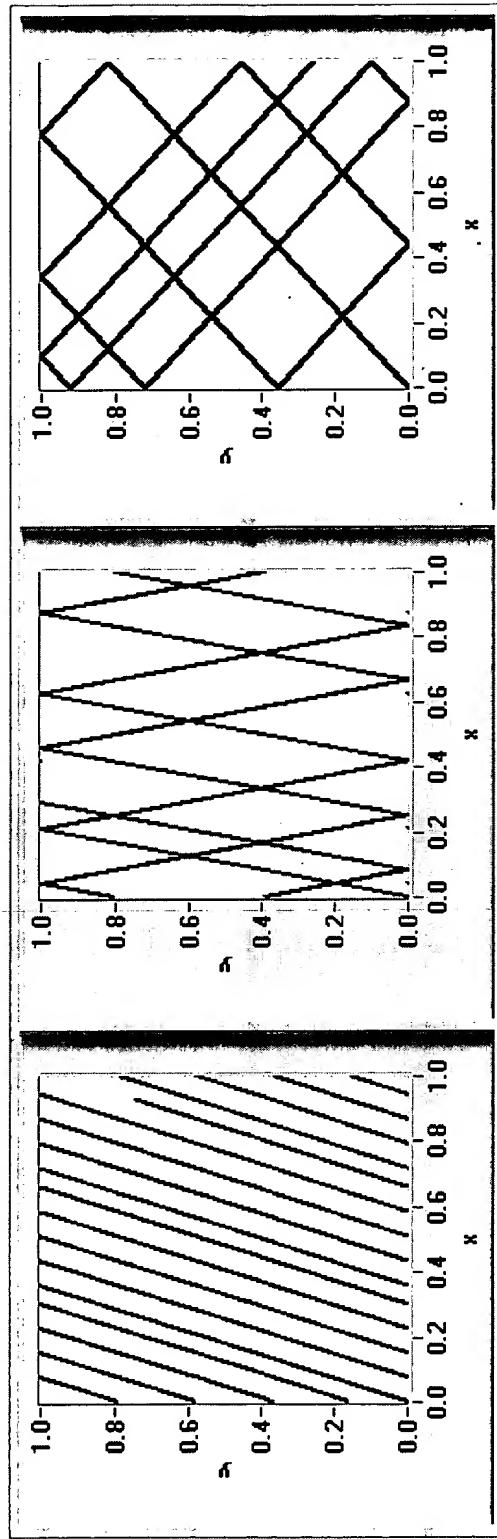


Figure 11A

Figure 11B

Figure 11C

108090-08697860

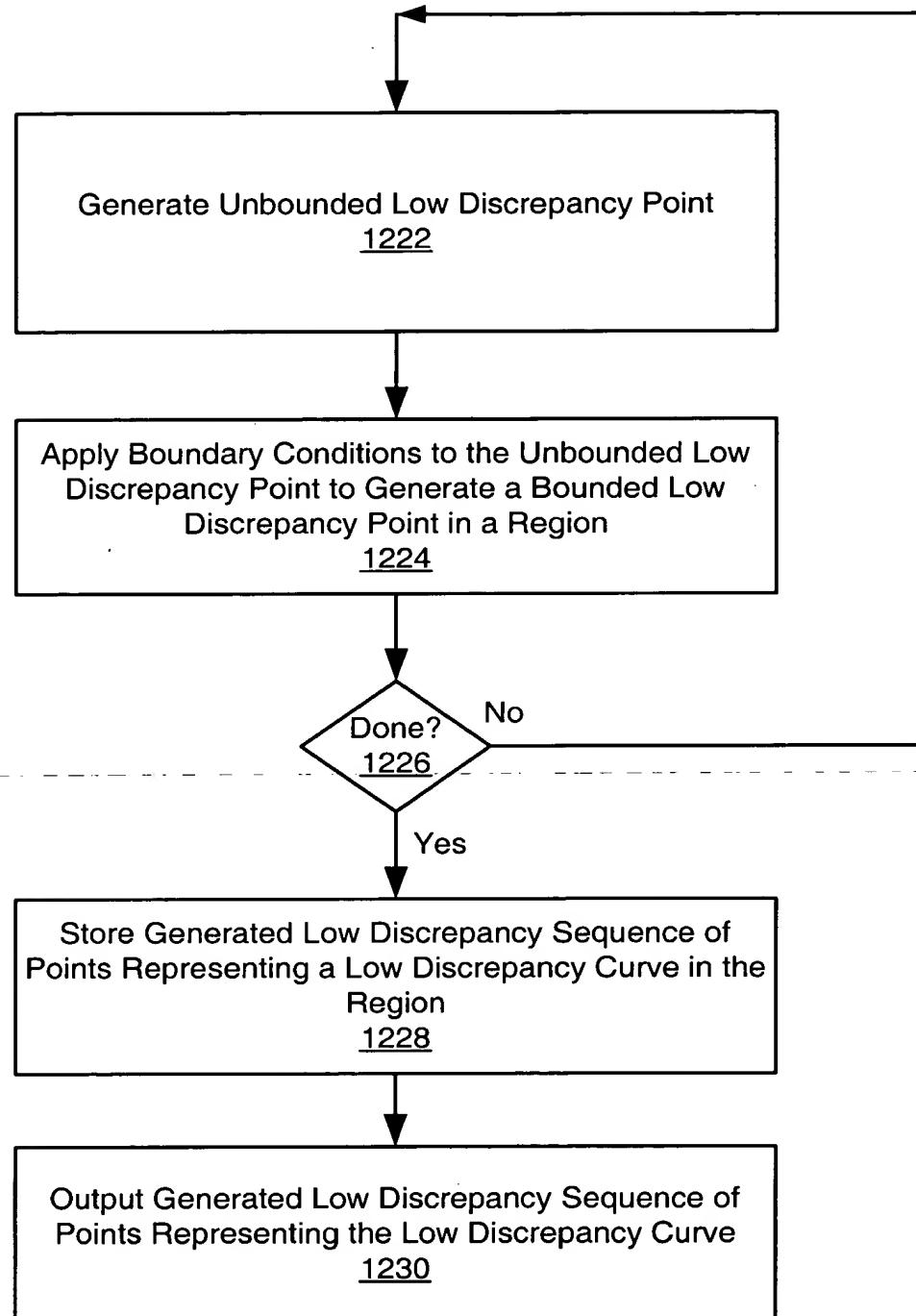


Figure 12A

1200-08694860

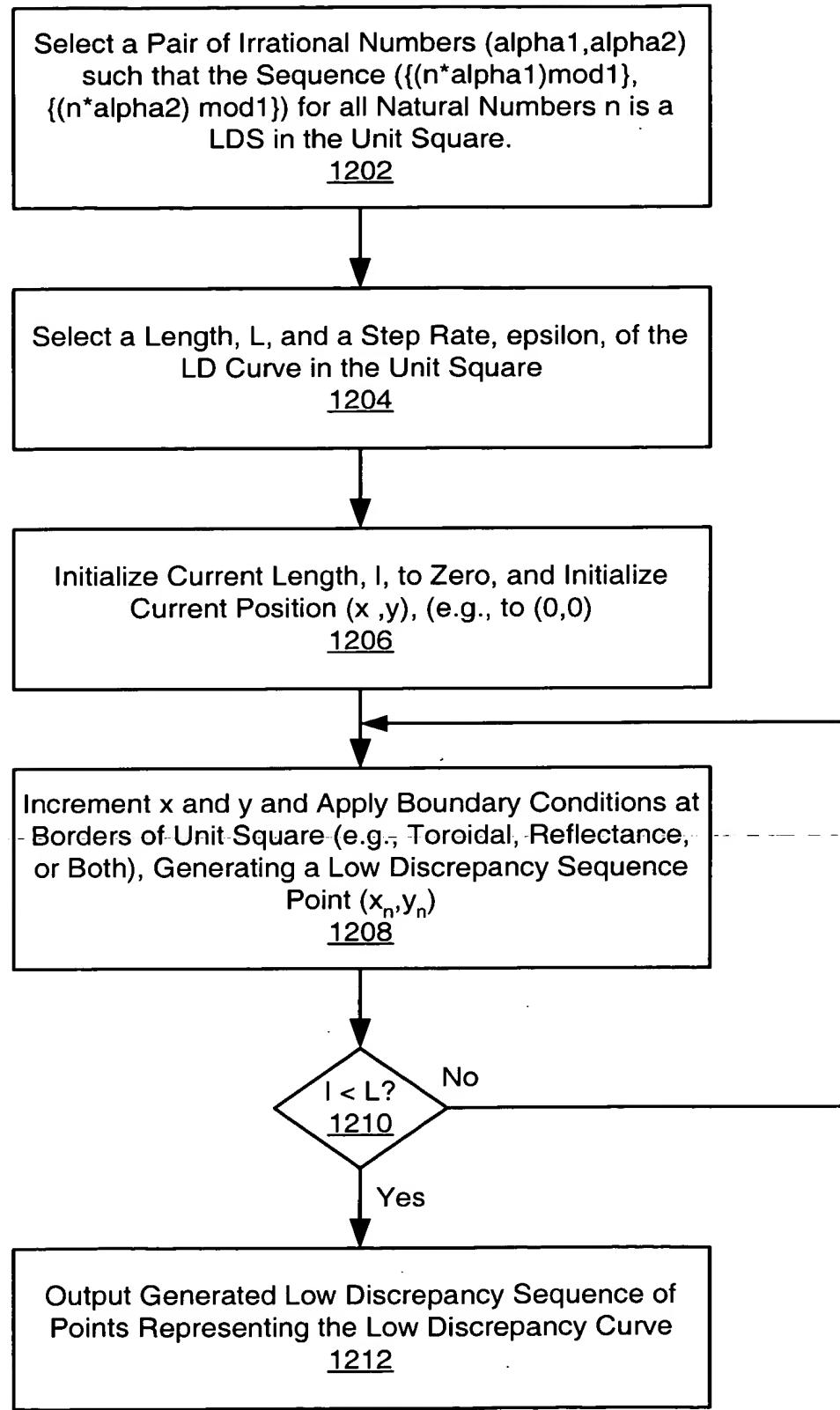
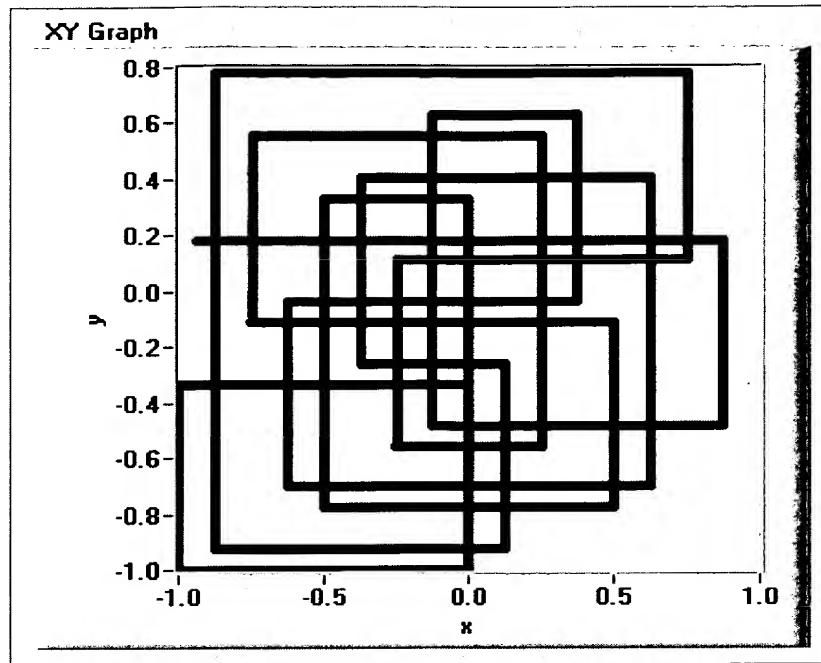
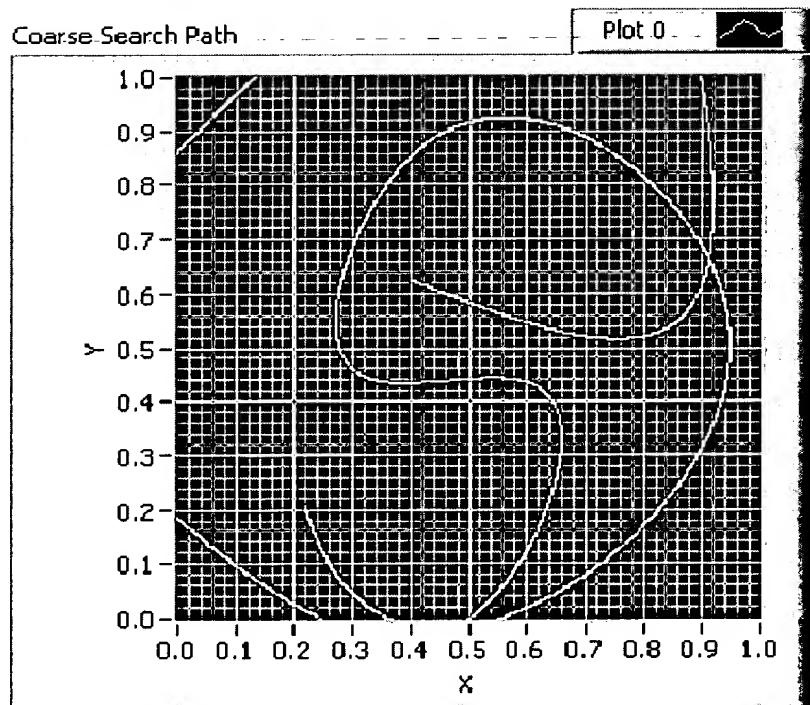


Figure 12B



Beginning of a Low Discrepancy Curve based on a specific
Halton Sequence in 2d

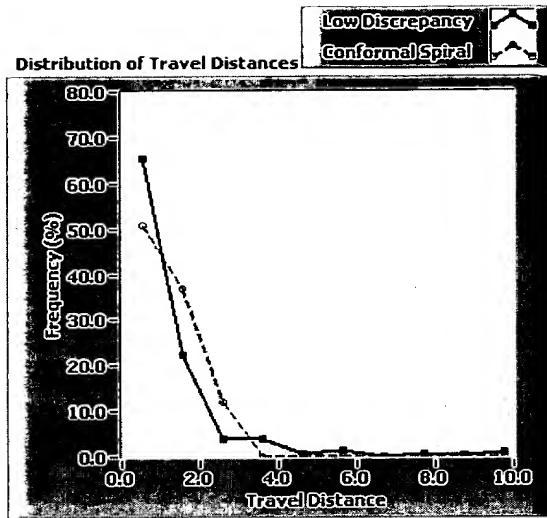
Figure 13A



Splined Low Discrepancy Curve coarse search

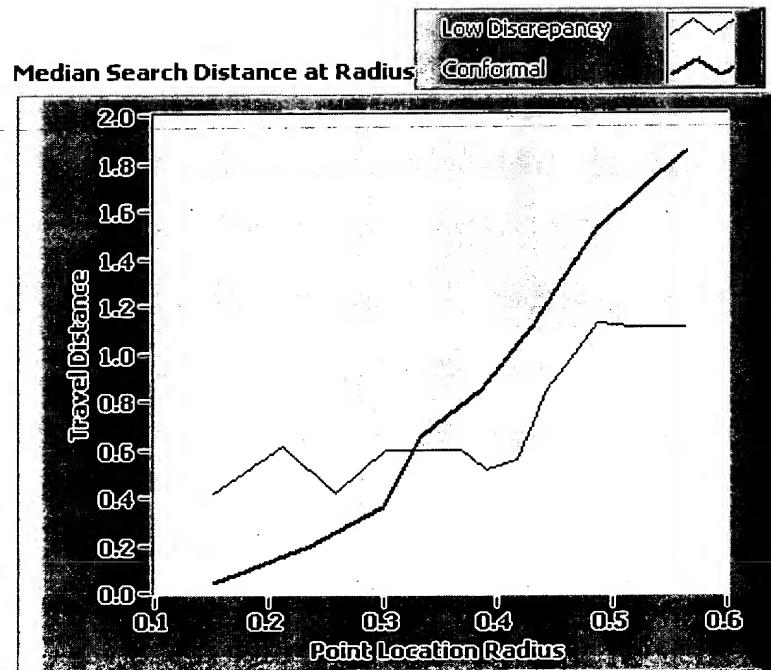
Figure 13B

100 90 80 70 60 50 40 30 20 10 0



Comparison of Conformal Spiral and Low Discrepancy Searching

Figure 13C



Comparison of Travel Distance for Low Discrepancy Search and Conformal Spiral Search

Figure 13D

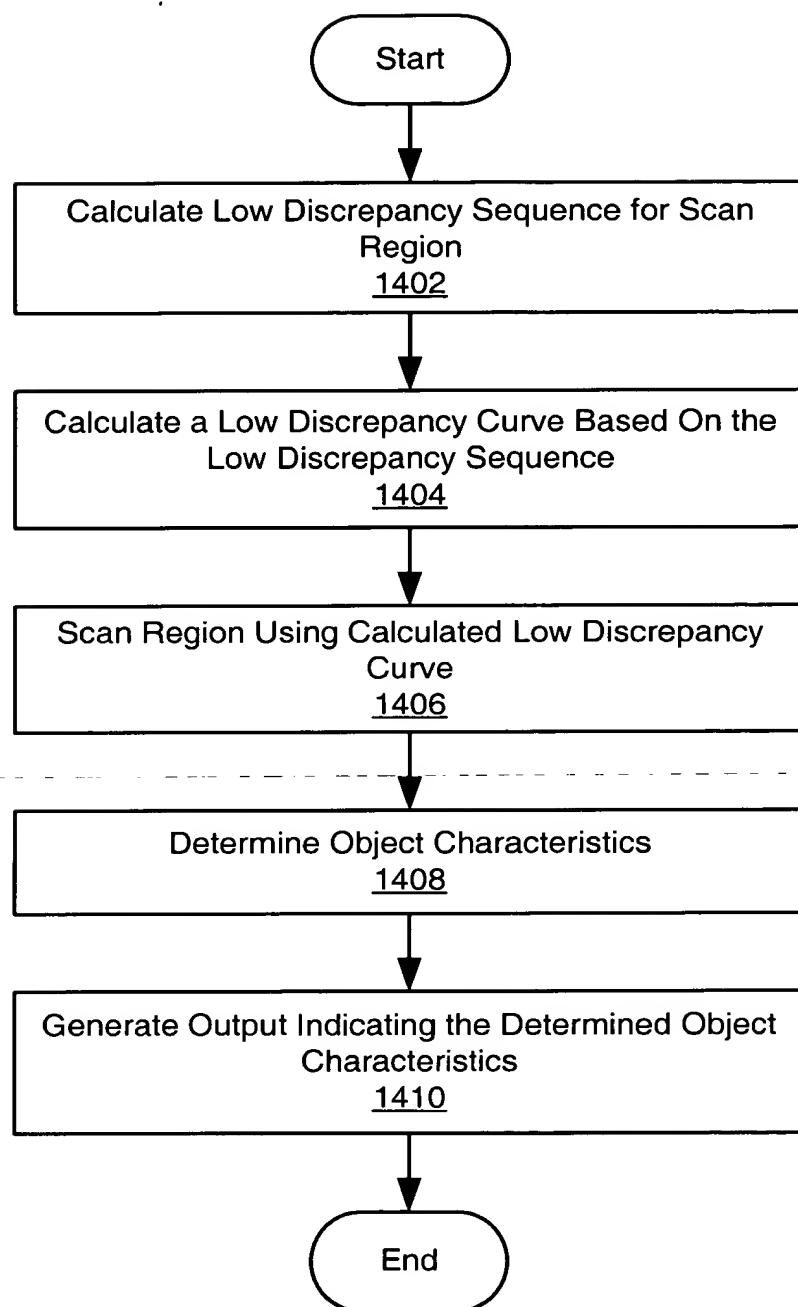
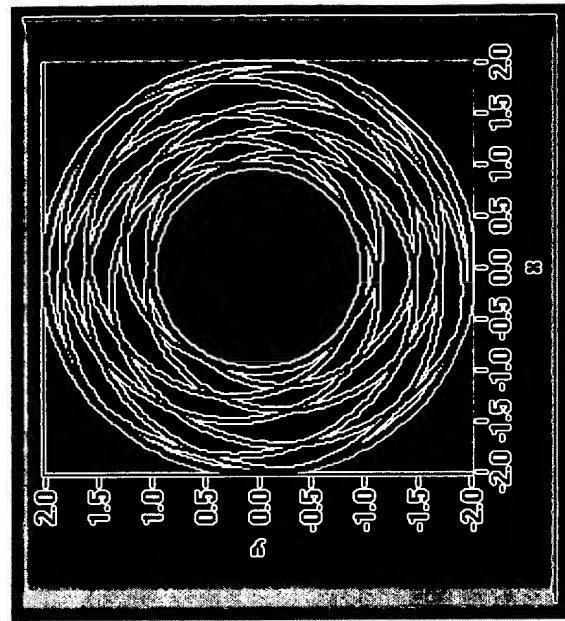


Figure 14

7.0 8.0 9.0 " 10.0 11.0 12.0



Tiling of the plane and relation to the surface of the unit cube

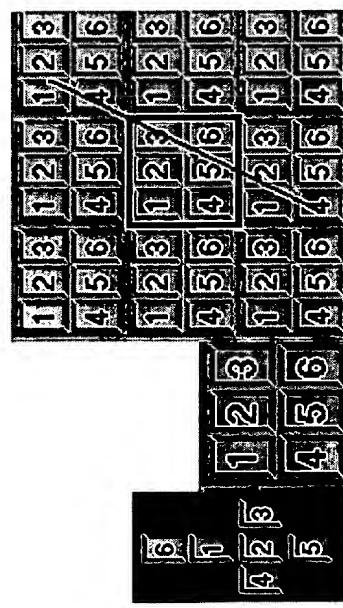
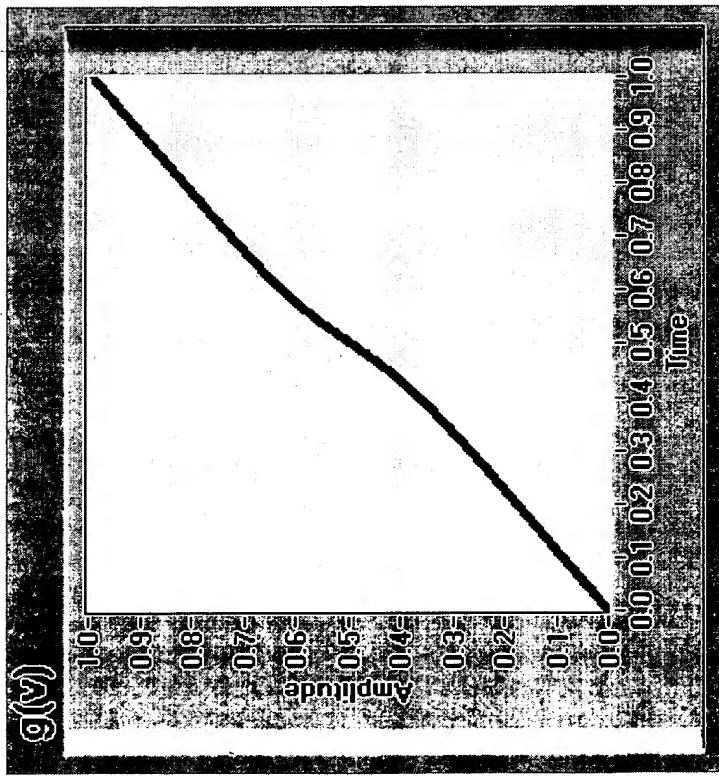


Figure 15A

Low-discrepancy curve in a ring

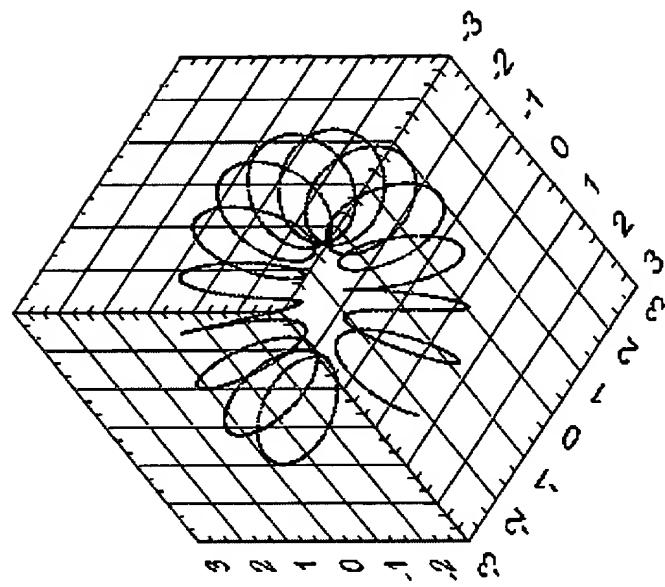
Figure 15B

708090" 08592360



Low Discrepancy Preserving Mapping Function

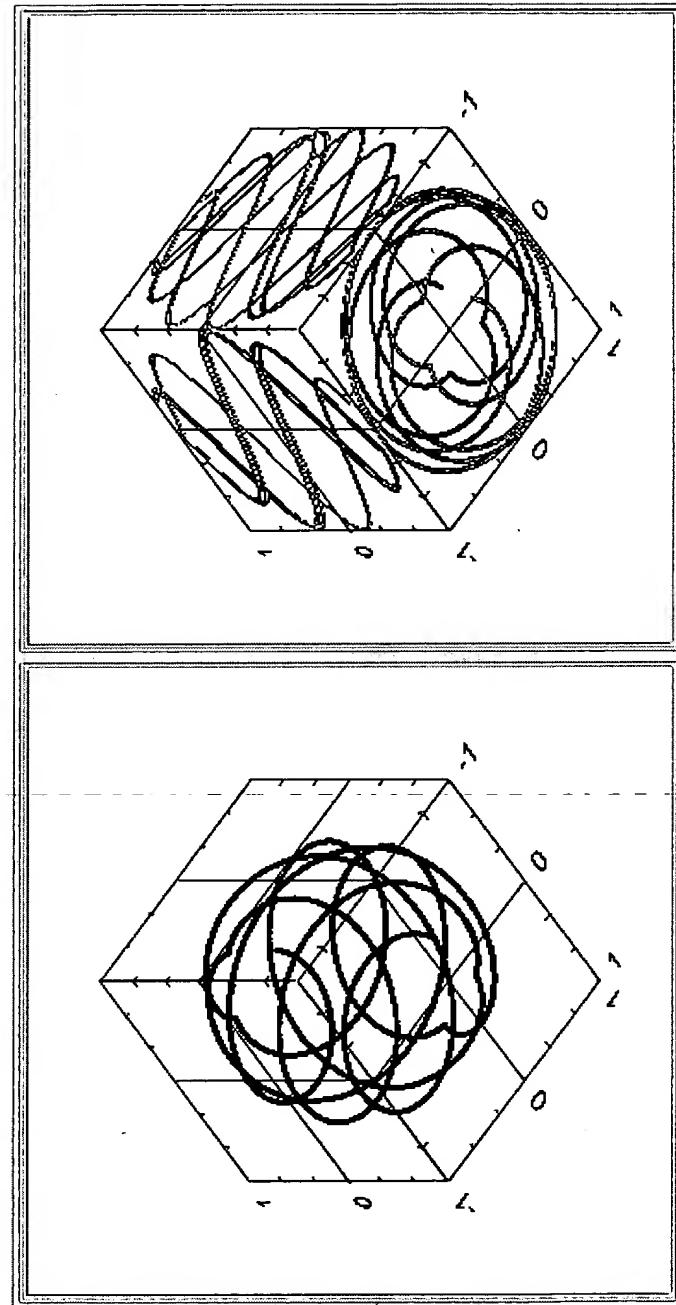
Figure 15C



Low-discrepancy curve filling the surface of a torus

Figure 15D

708020" 0369 £850



Low-discrepancy curve on a sphere
(left) and projections (right)

Figure 16

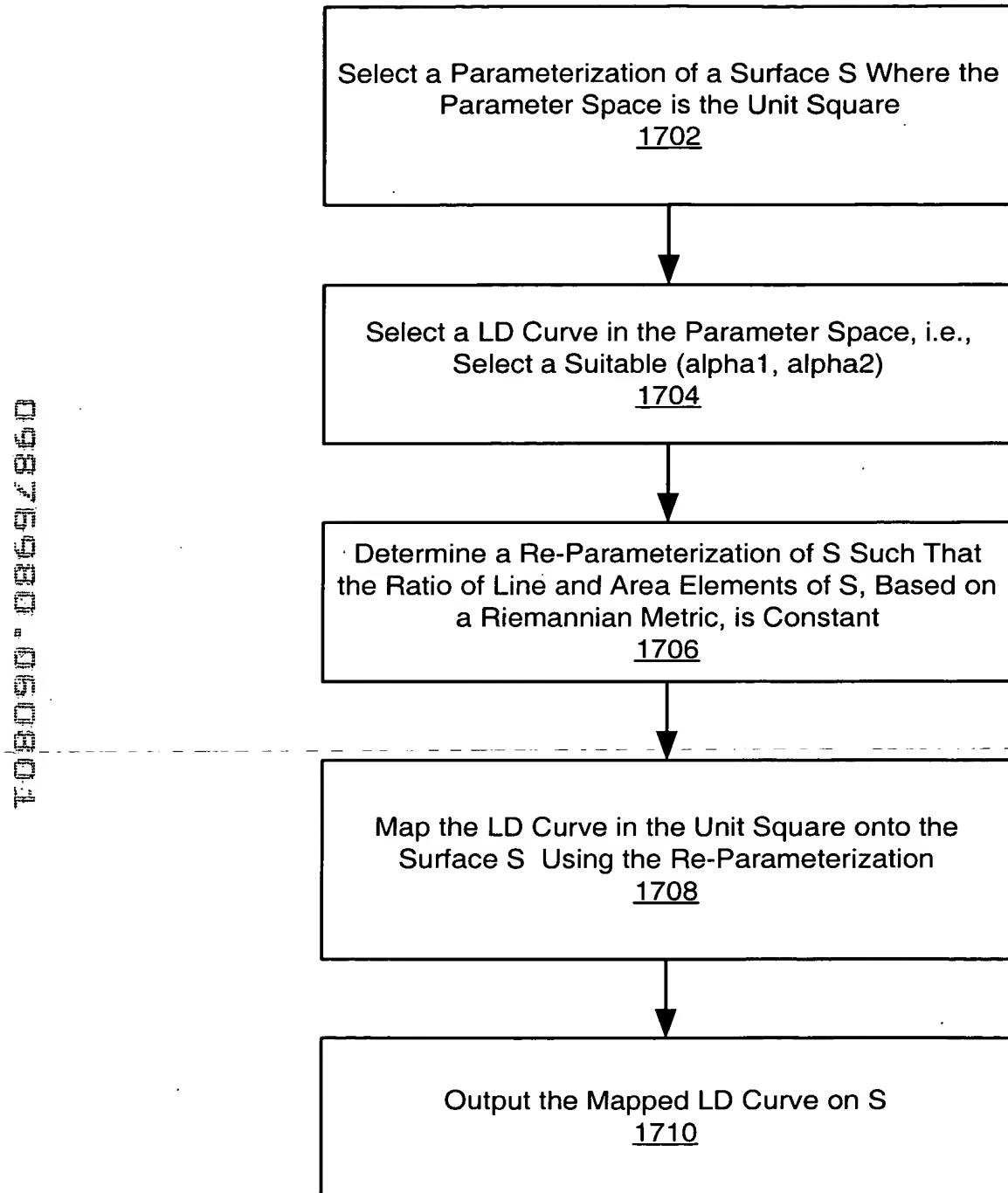
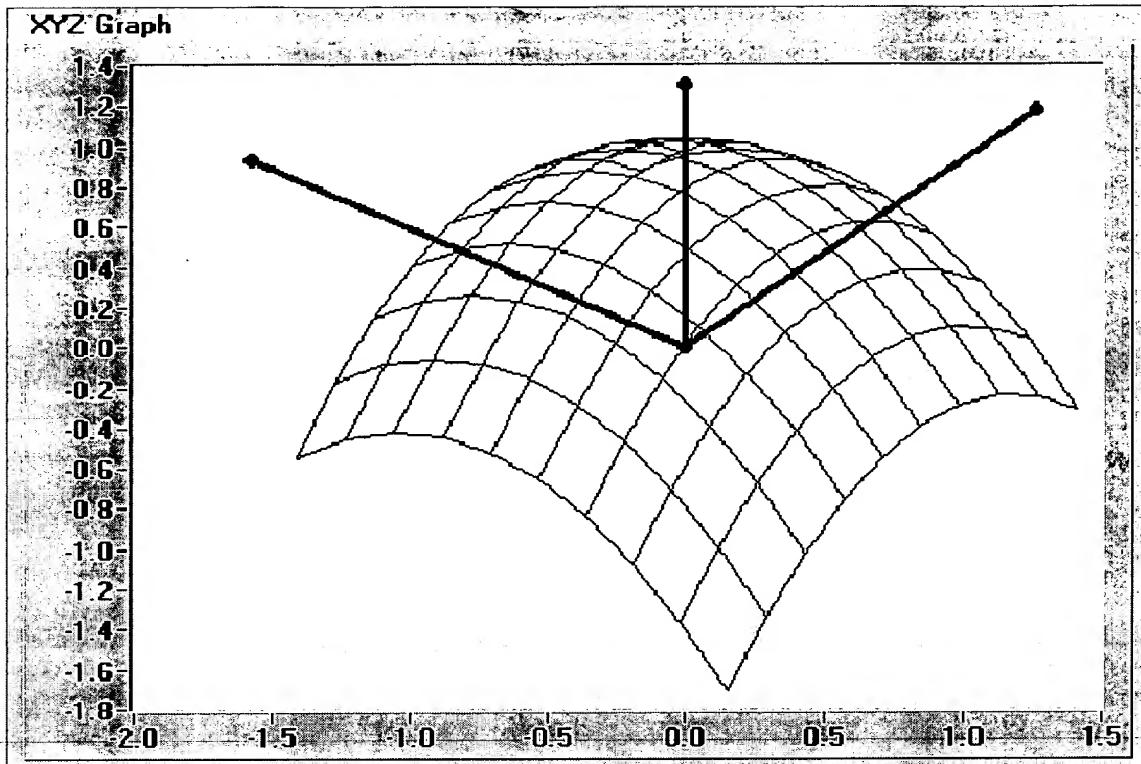


Figure 17

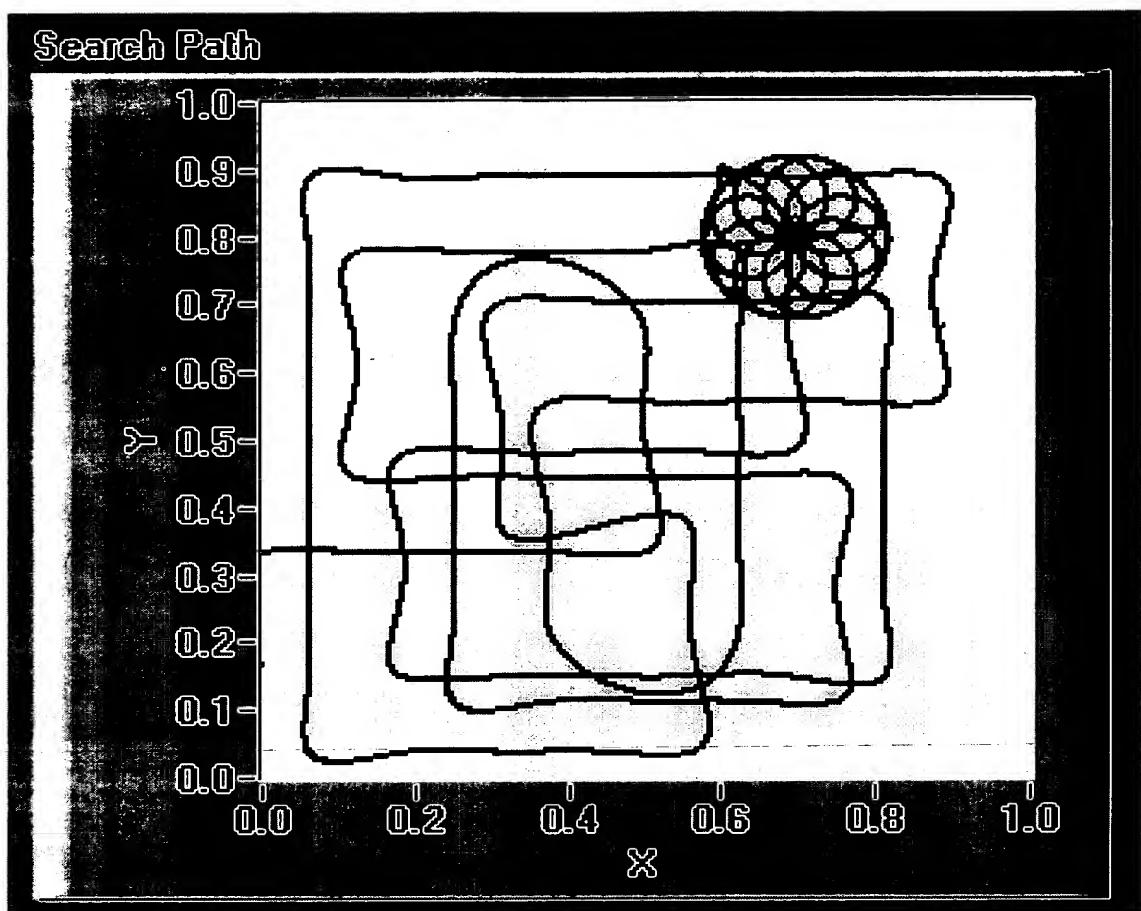
TO8030 "093597860



Surfaces can be scanned efficiently when the term low discrepancy sequence/curve can be generalized, e.g. based on metrics on the surface.

Figure 18

102030 - 09857860

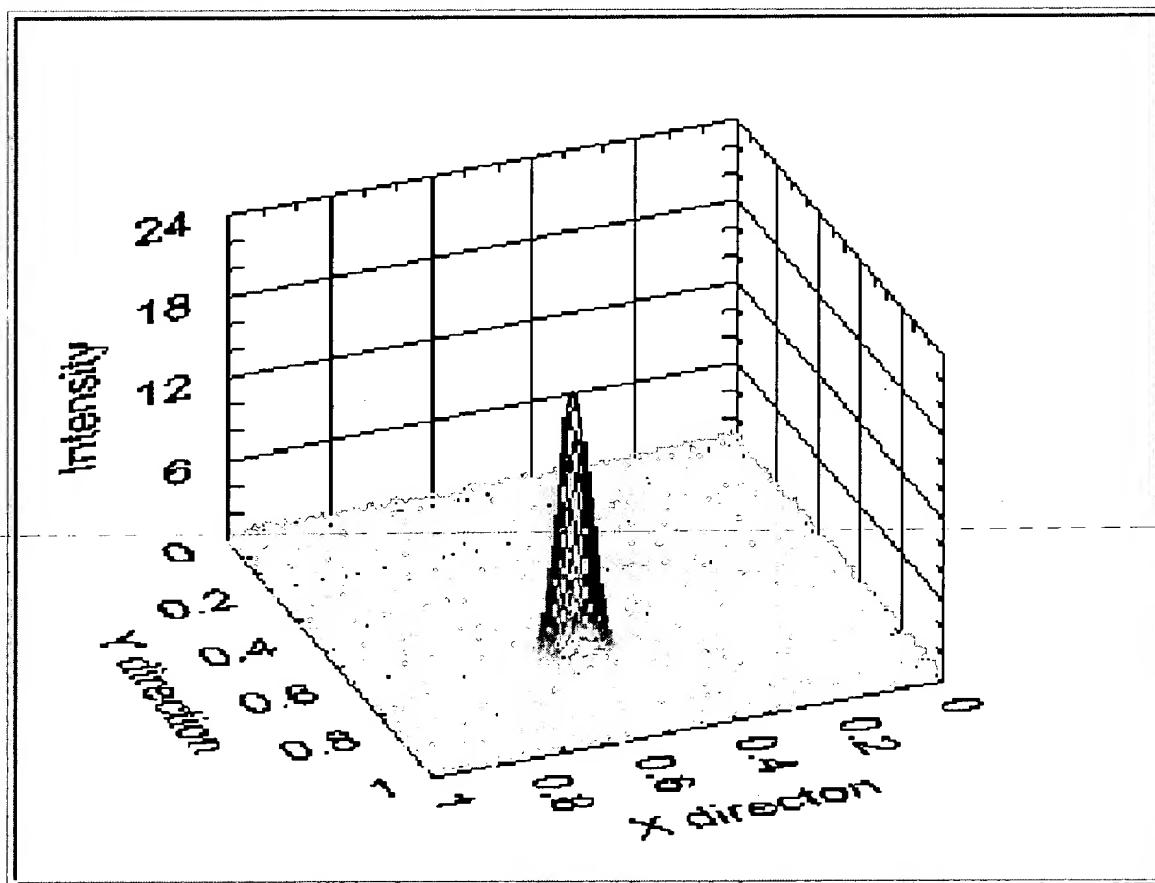


Splined Low Discrepancy Curve coarse search with refined final approach

Figure 19

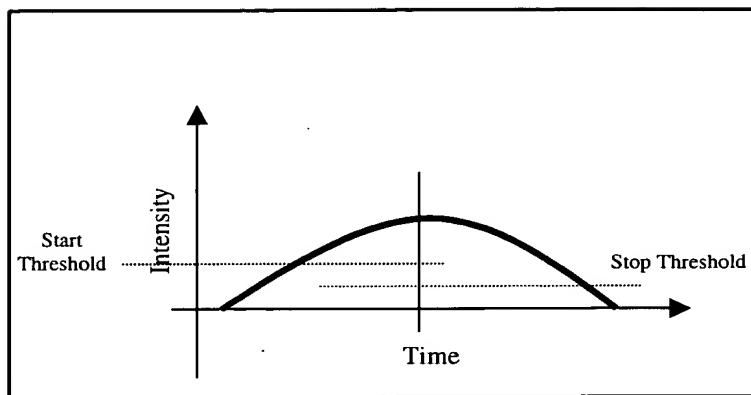
TOP 090 " 086 930 0 060

Intensity Field Distribution in Search Area

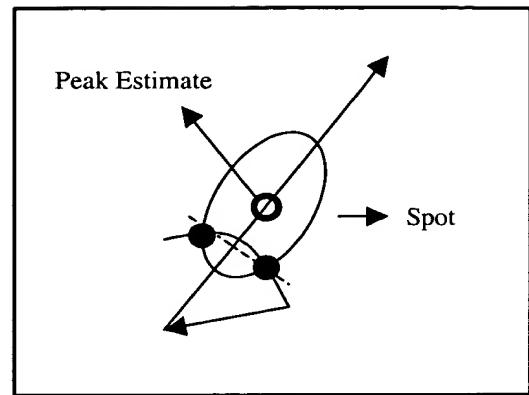


Beam intensity distribution in search area

Figure 20



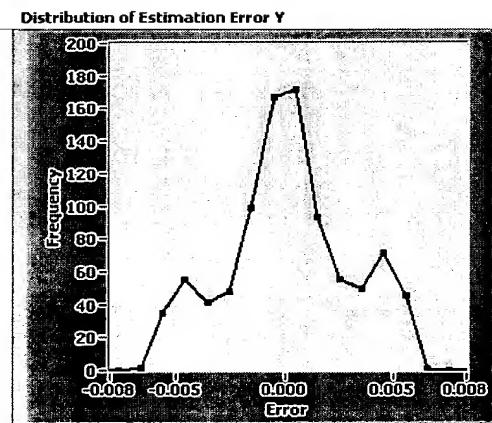
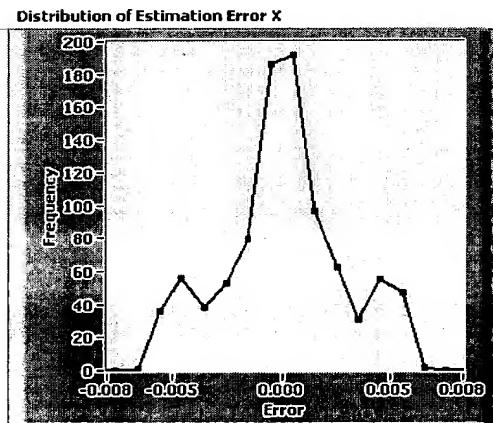
Location of the Peak



Initial Final Approach Move

Figure 21A

Figure 21B



Error distribution of the estimated peak X coordinate error (left) and Y coordinate error (right)

Figure 21C

08090-0869286

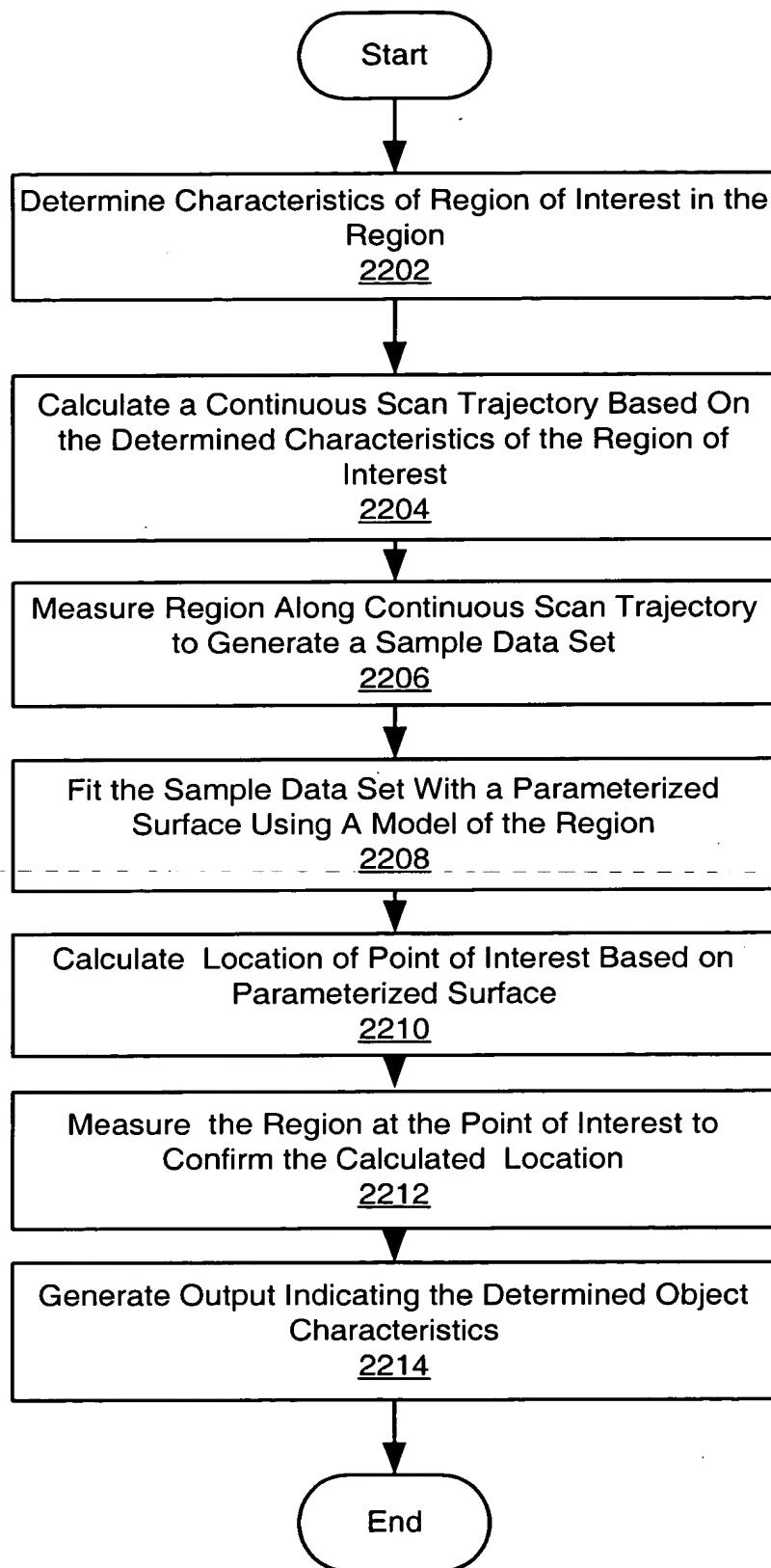


Figure 22

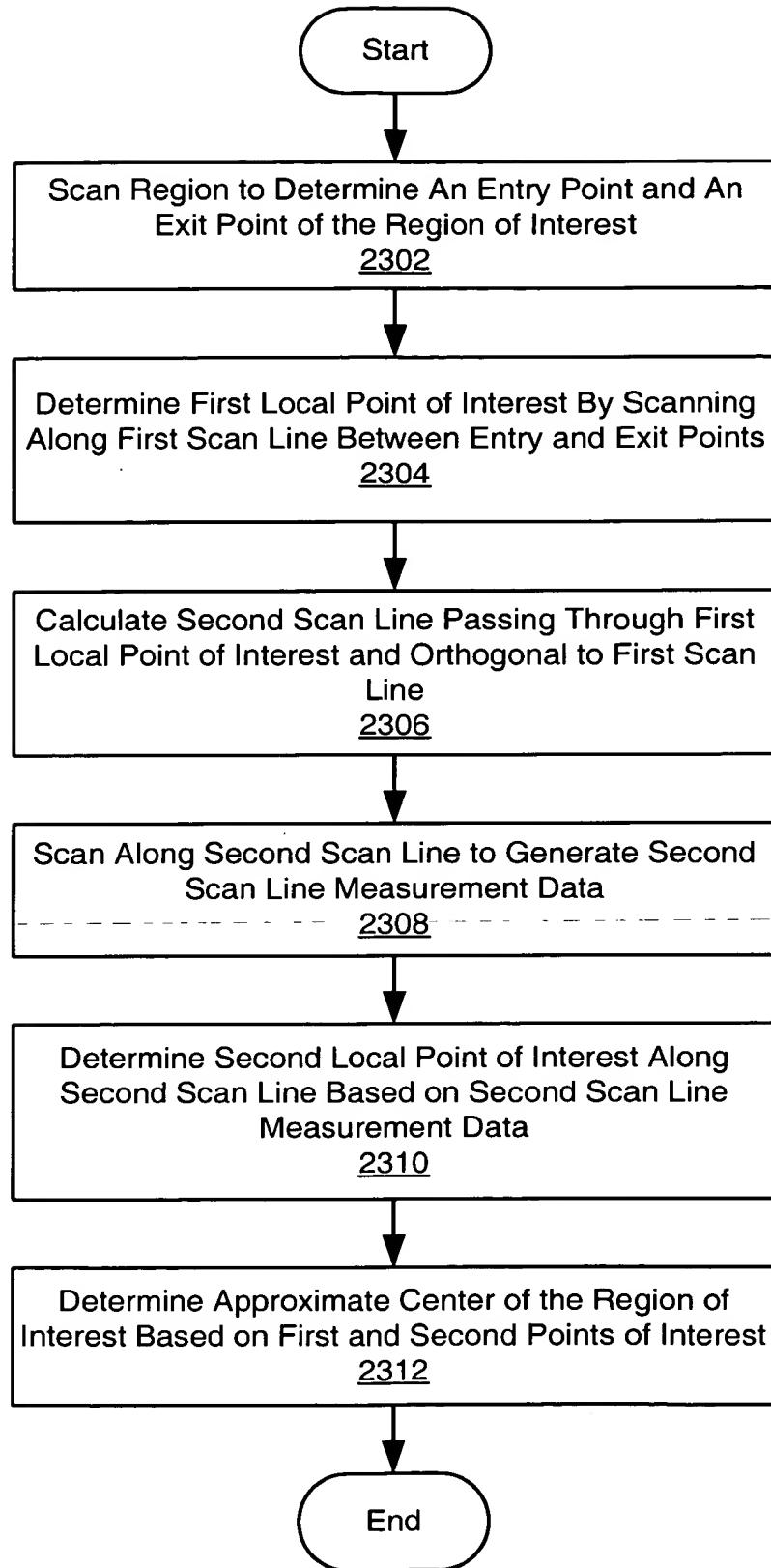


Figure 23